What is claimed is:

1. A method for selecting cells based on whether the cells express a short-lived protein, the method comprising:

taking a library of cells, each cell in the library expressing a fusion protein comprising a reporter protein and a protein encoded by a sequence from a cDNA library derived from a sample of cells, the sequence from the cDNA library varying within the cell library;

modifying a rate of protein expression or degradation by cells in the library; and

selecting a population of cells from the library of cells based on the population of cells having different reporter signal intensities than other cells in the library, the difference being indicative of the population of cells expressing shorter lived fusion proteins than the fusion proteins expressed by the other cells in the library.

2. A method according to claim 1 wherein the reporter protein is a fluorescent protein.

3. A method according to claim 1 wherein the reporter protein is a green fluorescence protein (GFP) or enhanced green fluorescence protein (EGFP).

4. A method according to claim 1 wherein protein expression is inhibited and selecting a population of the cells is based on the selected population of cells having a lower reporter signal intensity than the other cells after modifying the rate of protein expression.

5. A method according to claim 1 wherein protein expression is inhibited and selecting a population of the cells is based on the selected population of cells having less than half the reporter signal intensity than the other cells after modifying the rate of protein expression.

6. A method according to claim 1 wherein protein degradation is inhibited and selecting a population of the cells is based on the selected population of cells having a higher reporter signal intensity than the other cells after modifying the rate of protein degradation.

7. A method according to claim 1 wherein protein degradation is inhibited and selecting a population of the cells is based on the selected population of cells having more than twice the reporter signal intensity than the other cells after modifying the rate of protein degradation.

8. A method according to claim 1 wherein the selected population of the cells are subjected to one or more additional rounds of selection, each round of selection comprising modifying a rate of protein expression or degradation by the cells, and selecting a further subpopulation of the cells based on whether the cells have different reporter signal intensities than the other cells.

9. A method according to claim 1 wherein the selected population of the cells are subjected to one or more additional rounds of selection such that at least one round of selection comprises inhibiting protein expression and at least one round of selection comprises inhibiting protein degradation.

10. A method according to claim 1 wherein the selected population of the cells are further selected, at least partially, by culturing cells separately and individually monitoring how the reporter signal of each cell culture changes in response to protein synthesis or protein degradation being inhibited.

11. A method according to claim 1 wherein the selected population of cells are further selected, at least partially, by culturing cells separately and individually monitoring how the reporter signal of each cell culture changes using a fluorescent plate reader.

12. A method according to claim 1 wherein the method further comprises analyzing whether the fusion protein of the selected cells is short-lived by a pulse-chase analysis.

13. A method according to claim 1 wherein the method further comprises analyzing whether the fusion protein of the selected cells is short-lived by

radiolabelling the expressed fusion protein;

immunoprecipitating the expressed fusion protein with anti-GFP antisera; and

analyzing the immunoprecipitate by SDS-PAGE and autoradiography.

14. A method according to claim 1 wherein the method further comprises determining the nucleic acid sequences of the fusion proteins of the selected cells.

15. A method according to claim 1 wherein the method further comprises determining the protein sequences of the fusion proteins of the selected cells.

16. A method according to claim 1 wherein the method further comprises analyzing whether a portion of the fusion protein encoded by the sequence from the cDNA library is short-lived when expressed independent of the reporter protein.

17. A method for selecting cells based on whether the cells express a short-lived protein, the method comprising:

taking a library of cells, the cells in the library expressing a first reporter protein and a fusion protein comprising a second reporter protein and a protein encoded by a sequence from a cDNA library derived from a sample of cells, the

sequence from the cDNA library varying within the cell library;

modifying a rate of protein expression or degradation by cells in the library; and

selecting a population of cells from the library of cells based on the population of cells having different normalized reporter signal intensities than other cells in the library, the normalized reporter signal intensity comprising a reporter signal from the fusion protein normalized relative to a reporter signal from the first reporter protein, the difference being indicative of the population of cells expressing shorter lived fusion proteins than the fusion proteins expressed by the other cells in the library.

18. A method for selecting cells based on whether the cells express a short-lived protein, the method comprising:

taking a library of cells, the cells in the library expressing a fusion protein comprising a reporter protein and a protein encoded by a sequence from a cDNA library derived from a sample of cells, the sequence from the cDNA library varying within the cell library;

partitioning the library of cells into populations of cells based on an intensity of a reporter signal from the fusion protein such that cells partitioned into a given population have a reporter signal within a range of reporter signal intensity;

modifying a rate of protein expression or degradation by cells for a given population of cells; and

selecting a subpopulation of cells from the given population of cells based on the subpopulation of cells having different reporter signal intensities than other cells in the given population, the difference being indicative of the subpopulation of cells expressing shorter lived fusion proteins than the fusion proteins expressed by the other cells in the given population.

19. A method according to claim 18 wherein the reporter protein is a fluorescent protein and the range of reporter signal intensity is equal to or less than a half-log interval of fluorescence.

20. A method according to claim 18 wherein the reporter protein is a fluorescent protein and partitioning the screened cells into populations of cells comprises partitioning the screened cells into populations such that a given population has a modal brightness that differs from another population by a factor of at least 3.

21. A method according to claim 18 wherein partitioning the screened cells into populations of cells comprises partitioning the screened cells into at least 4 populations of cells where the reporter signal intensities of cells within a given population do not overlap with the reporter signal intensities of cells within another population of cells.

22. A method according to claim 18 wherein protein expression is inhibited and selecting a subpopulation of the cells is based on the subpopulation of cells having a lower reporter signal intensity than the other cells after protein expression is inhibited.

23. A method according to claim 18 wherein protein expression is inhibited and selecting a subpopulation of the cells is based on the subpopulation of cells having less than half reporter signal intensity than the other cells after protein expression is inhibited.

24. A method according to claim 18 wherein protein degradation is inhibited and selecting a subpopulation of the cells is based on the subpopulation of cells having a higher reporter signal intensity than the other cells after protein degradation is inhibited.

25. A method according to claim 18 wherein protein degradation is inhibited and selecting a subpopulation of the cells is based on subpopulation of cells having more than twice the reporter signal intensity than the other cells after protein degradation is inhibited.

26. A method according to claim 18 wherein the selected subpopulation of the cells are subjected to one or more additional rounds of selection, each round of selection comprising modifying a rate of protein expression or degradation by the cells, and selecting a further subpopulation of the cells based on whether the cells have different reporter signal intensities than the other cells.

27. A method according to claim 18 wherein the selected subpopulation of the cells are subjected to one or more additional rounds of selection such that at least one round of selection comprises inhibiting protein expression and at least one round of selection comprises inhibiting protein degradation.

28. A method according to claim 18 wherein the selected subpopulation of cells are further selected, at least partially, by culturing cells separately and individually monitoring how the reporter signal of each cell culture changes in response to protein synthesis or protein degradation being inhibited.

29. A method according to claim 18 wherein the selected subpopulation of cells are further selected, at least partially, by culturing cells separately and individually monitoring how the reporter signal of each cell culture changes using a fluorescent plate reader.

30. A method according to claim 18 wherein the method further comprises determining the nucleic acid sequences of the fusion proteins of the selected subpopulation of cells.

31. A method according to claim 18 wherein the method further comprises determining the protein sequences of the fusion proteins of the selected subpopulation of cells.

32. A method for selecting cells based on whether the cells express a short-lived protein, the method comprising:

taking a library of cells, the cells in the library expressing a first reporter protein and a fusion protein comprising a second reporter protein and a protein encoded by a sequence from a cDNA library derived from a sample of cells, the sequence from the cDNA library varying within the cell library;

partitioning the library of cells into populations of cells based on an intensity of a reporter signal from the fusion protein such that cells partitioned into a given population have a reporter signal within a desired range of reporter signal intensity;

modifying a rate of protein expression or degradation by cells for a given population of cells; and

selecting a subpopulation of the cells from the given population of cells based on whether the cells have different normalized reporter signal intensities than other cells in the given population, the normalized reporter signal intensity comprising a reporter signal from the fusion protein normalized relative to a reporter signal from the first reporter protein, the difference being indicative of the subpopulation of cells expressing shorter lived fusion proteins than the fusion proteins expressed by the other cells in the given population.

33. A method according to claim 32 wherein the method further comprises determining the nucleic acid sequences of the fusion proteins of the selected subpopulation of cells.

34. A method according to claim 32 wherein the method further comprises determining the protein sequences of the fusion proteins of the selected subpopulation of cells.

35. A method for selecting cells based on whether the cells express a short-lived protein, the method comprising:

forming a construct library encoding a library of fusion proteins, each fusion protein comprising a reporter protein and a protein encoded by a sequence from a

cDNA library derived from a sample of cells;

transducing or transfecting the construct library into cells to form a library of cells which express the library of the fusion proteins;

screening the transduced or transfected cells for cells which express the fusion protein;

partitioning the screened cells into populations of cells based on an intensity of a reporter signal from the fusion protein such that cells partitioned into a given population have a reporter signal within a desired range of reporter signal intensity;

modifying a rate of protein expression or degradation by cells in the given population; and

selecting a subpopulation of the cells from the given population of cells based on whether the cells have different reporter signal intensities than other cells in the given population, the difference being indicative of the subpopulation of cells expressing shorter lived fusion proteins than the fusion proteins expressed by the other cells in the given population.

36. A method according to claim 35 wherein the method further comprises determining the nucleic acid sequences of the fusion proteins of the selected subpopulation of cells.

37. A method according to claim 35 wherein the method further comprises determining the protein sequences of the fusion proteins of the selected subpopulation of cells.

38. A method according to claim 35 wherein the library of cells further express an internal standard protein having a different reporter signal than the reporter protein, selecting the subpopulation of cells comprising normalizing the reporter signal from the fusion protein using the reporter signal from the internal standard protein.

39. A method according to claim 35 wherein screening the transduced or transfected cells for cells which express the fusion protein is based on detection of the reporter protein.

40. A method according to claim 35 wherein screening is performed using a flow cytometer.